

THE ALGAE OF NEW JERSEY (U.S.A.)
VI. CHLOROPHYTA (GREEN ALGAE)
A. VOLVOCALES, TETRASPORALES AND ULOTRICHALES

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This is the sixth paper in a series which examines the distribution of the algae in the State of New Jersey.

The chlorophyta is a large and diverse division of algae, so much so, that one can speak of the green algae only in general terms. Most green algae are fresh water forms but there are marine species, too.

The genera are listed alphabetically within each order and the collection dates chronologically within them. If no author citation is given, the species was collected during the course of my work.

DIVISION CHLOROPHYTA

GREEN ALGAE

VOLVOCALES

Chlamydomonas globosa Snow

Johnson Pond, New Brunswick, Aug-Oct (7)

C. pseudopertyi Pascher

golf course ditch, New Brunswick, Sept-Oct (7)

C. vectensis Butcher

northern shore (11)

Eudorina elegans Ehr.

D/R Canal (13); golf course ditch and Johnson Pond, New Brunswick (7); Millstone River, autumn (4); Hackensack River

Gonium pectorale Mueller

state (3, 16); rare in stagnant waters (2); D/R Canal, Mar-Dec (13); Johnson Pond, New Brunswick, Aug (7); Hackensack River

G. sociale (Duj.) Warming

D/R Canal, Jun-Mar (13); Hackensack River

Haematococcus lacustris (Girod.) Bory.

Hackensack River

Pandorina morum Bory.

pools of stagnant water (2); D/R Canal, May-Nov (13); Johnson Pond, New Brunswick, spring and summer (7); Raritan River, spring-autumn (4); Hackensack River

Pleodorina illinoisensis Kofoid

D/R Canal, Aug-Sept (13); Johnson Pond, New Brunswick, June (7)

Volvox aureus Ehr.

D/R Canal, July (13)

V. globater L.

ponds in Newark and Camden (2); D/R Canal, June-July (13)

V. stellatus Ehr.

in ponds about Plainfield (2)

V. tertius Meyer

Millstone River, rare in spring (4)

TETRASPORALES

Elakatothrix gelatinosa Wille

Hackensack River

Gloeocystis gigas Kutz.

D/R Canal, Jul-Oct (13); Johnson Pond, New Brunswick, Aug (7); Hackensack River

G. major Gerneck ex. Lemmer.

golf course ditch, New Brunswick, Sept (7)

G. vesiculosa Naegli

wet places, old wood, etc. (2); Johnson Pond, New Brunswick, Feb (7)

Nannochloris atomus Butcher

Raritan estuary (12); northern shore (11)

N. bacillaris Naumann

Oradell Reservoir, occasional in plankton, Jul-Oct (5)

Palmella botryoides Kutz.

marshy ground, wet timbers, etc. (2)

P. hyalina Breb.

marshy ground, wet timbers, etc. (2)

P. miniata Deibl.

marshy ground, wet timbers, etc. (2)

P. mooreana Harv.

marshy ground, wet timbers, etc. (2)

P. mucosa Kutz.

marshy ground, wet timbers (2); Raritan River, spring and south branch of Raritan, autumn (4); Oradell Reservoir, Aug (5); Hackensack River

Sphaerocystis schroeteri Chodat

D/R Canal, Jun-Sept (13); north and south branches of Raritan River, common in summer (4)

Tetraspora bulbosa (Roth) Ag.

sluggish waters (2)

T. cylindrica (Wohl) Ag.

golf course ditch, stream, Raritan River and Johnson Pond, all New Brunswick, (7)

T. explanata (Kutz) Kirch.

wet timbers (2)

T. gelatinosa (Vauch) Desvaux.

state (3)

T. lubrica (Roth) Ag.

sluggish waters (2); north branch of Raritan River, Millstone River and Raritan River, abundant in spring (4)

ULOTRICHALES

Aphanochaete globosa (Nordst) Wille

Hammoncton pond (2)

A. repens A. Braunparasitic on other fresh water algae (2); south branch of Raritan River, on Gladophora glomerata (4)

Chaetophora elegans (Roth) Ag.

attached to leaves, sticks in brooks and stagnant waters, Hudson Heights, Grantwood, Greenwood Lake (6); Raritan River (7); mostly spring (3)

C. endiviaefolia Ag.

not rare in ponds (2)

C. incrassata (Hudson) Hazen

sticks, stones, leaves in brook, Grantwood (6)

C. pisiformis Ag.

not rare in ponds (2); brooks, chiefly attached to pebbles and rocks, Hudson Heights and Demarest (6); running water (3)

Chaetospheridium globosum (Nordst) Klebahn

Hammonton (6); on algae, chiefly Oedogonium (3)

Coleochaete irregularis Prings.

on aquatic plants (2); state (3)

C. orbicularis Prings.

very common in ponds (2); state (3)

C. scutata Breb.

very common in ponds (2)

C. soluta (Breb.) Prings.

frequent (16); frequent in ponds (2); state (3); stream in New Brunswick (7)

Cylindrocapsa geminella Wolle

not frequent in ponds (2); in standing water (3)

Draparnaldia acuta Kutz.

brooks, rills, semi-stagnant waters in Hudson Heights, Cresskill and Undercliff (6); state (3)

D. glomerata Ag.

frequent in spring water (2); attached to grass, sticks, stones, earth in active or quiet waters, Grantwood, Hudson Heights (6); very common in brooks in spring (3)

D. playtsonata Hazen

rocks or sticks in brooks draining swamps (6); state (3)

D. plumosa Ag.

spring waters (2); running water in Hudson Heights, Demarest and Englewood (6); golf course ditch, north branch of Raritan River (7); Millstone River (4)

Geminella minor (Nag.) Heering

Millstone River, rare in late autumn (4)

Gomontia polyrhiza

Barneget Bay (5)

Hormidium klebsia G.M. Smith

Raritan River, rare in summer (4)

Microspora amoena (Kutz) Lager.

Undercliff, Englewood, in brooks (6); state (3)

M. floccosa (Vauch.) Thuret

Grantwood, Edgewood and Weehawken, in streams (6); very common spring plant in slow streams and quiet waters (3)

M. quadrata Hazen

Millstone River, rare in autumn (4)

M. stagnorum (Kutz.) Lager.

stagnant water, Grantwood and Edgewater (6); golf course ditch
New Brunswick (7)

M. tumidula Hazen

Hudson Heights, Grantwood and Undercliff (6); brooks and pools
(3); north and south branches of Raritan River year round (4)

M. willeana Lager.

Grantwood, Edgewater (6); state (3); north and south branches
of Raritan River (4); Oradell Reservoir (5)

Microthamion kuetsingianum Nageli

Johnson Pond (7); Oradell Reservoir, Apr-July (5)

Protococcus viridis Ag.

everywhere (2); Mullica River all year (8)

Protoderma viride Kutz.

Millstone River, south branch of Raritan River (4)

Pseudendoclonium submarinum

Barnegat Bay (15)

Stichoccus cylindricus Butch.

Raritan estuary, June, July and Oct (12)

S. fluitans Gay

in cascades on oblique surfaces of rocks, Undercliff (6);
state (3)

S. subtilis (Kutz.) Klercker

Long Branch, Undercliff (6); Hackensack River

S. bacillaris forma confervoidea Hazen

Ridgefield (6); found among algae in rather quiet water (3)

Stigeoclonium lubricum (Dillw.) Kutz.

clear running water (3); north and south branches of Raritan
River, Millstone River, Raritan River (4, 7)

S. lubricum var varians (Hazen) Collins

state (3)

S. pachydermum Prescott

Johnson Pond, New Brunswick (7)

S. radians Kutz.

on aquatic plants, frequent (2)

S. subsecundum Kutz.

never found floating (3)

S. subuligerum Kutz.

state (3)

S. tenue (Ag) Kutz.

frequent in flowing waters (2)

S. ventricosum Hazen

state (3)

Trentopohlia daviesii (Dillw) Harv.

Atlantic City (2)

T. odorata (Wiggers) Witte

state (3)

T. vigatula (Harv.) Farlow

Atlantic City (2); on Zostera (10)

Ulothrix aequalis Kutz.

golf course ditch, Johnson Pond (7); Millstone and Raritan
Rivers (4); Mullica River (8)

U. flacca (Dillw) Thur.

wharves, Atlantic City (2); Undercliff, Atlantic City (6); state, common between tide marks (3); coast (14); Raritan River (1); not uncommon on algae (10)

U. flaccida Kutz.

in damp or wet places (2)

U. implexa Kutz.

Undercliff, on rocks (6); state (3); Mullica River (9); Barnegat Bay (8); Barnegat Bay, Jan, Mar and Apr (15)

U. isocona (Smith) Thur.

not uncommon on woodwork, Atlantic City (10); New York Bay (2)

U. oscillarina Kutz.

north and south branches of Raritan River (4)

U. parietina (Vauch.) Kutz.

at base of trees (2)

U. subtilis Kutz.

varieties in flowing water (2)

U. tenerrima Kutz.

north and south branches of Raritan River, Raritan River (4); Oradell Reservoir, Apr-Nov (5); Hackensack River

U. tenuis Kutz.

in rapid waters (2)

U. tenuissima Kutz.

Fairview, in running water (6); Raritan River (7); north and south branches of Raritan River, Raritan and Millstone Rivers (4)

U. varia Kutz.

on moist earth (2)

U. variabilis Kutz.

Undercliff, Brooks (6); north and south branches of Raritan (4)

U. zonata (Weber & Mohr) Kutz.

streams (2); Nordhoff (6); north and south branches of Raritan River, Millstone and Raritan Rivers (4)

References

1. Abbiate, L. 1961. An ecological study of the attached algae of Raritan Bay. M.S. Thesis. Rutgers. New Brunswick.
2. Britton, N. 1889. Catalogue of Plants Found in New Jersey. Final Report State Geologist. John L. Murphy Pub. Trenton.
3. Collins, F. 1928. Green Algae of North America. G.E. Stechert & Co. New York.
4. Edgar, R. 1968. A survey of the benthic algal flora of the Raritan River drainage basin. M.S. Thesis. Rutgers. New Brunswick.
5. Foote, M.A. 1981. Bull. N.J. Acad. Sci. 26:49-51
6. Hazen, T. 1902. Mem. Torrey Bot. 11:135-250
7. Keller, J. 1954. A study of the periodicity of fresh water algae in the vicinity of New Brunswick, N.J. Ph.D. Thesis. Rutgers. New Brunswick.
8. Moeller, H. 1965. The attached algae of the Great Bay and Mullica River, New Jersey. M.S. Thesis. Rutgers. New Brunswick.

9. Moeller, H. 1965. Bull. N.J. Acad. Sci. 9:27-30
10. Morse, 1888. Bull. Torrey Bot. Club 15:309-14
11. Olsen, P. and M. Cohn. 1979. Bull. N.J. Acad. Sci. 24:59-69
12. Patten, B. 1962. Jrl. Mar. Res. 20:57-75
13. Renlund, R. 1953. A study of the net plankton of the Delaware and Raritan Canal. Ph.D. Thesis. Rutgers. New Brunswick.
14. Richards, H. 1931. Botanica 13:38-46
15. Taylor, J. 1970. The ecology and seasonal periodicity of benthic marine algae from Barnegat Bay, New Jersey. Ph.D. Thesis. Rutgers. New Brunswick.
16. Wolle, F. 1887. Freshwater Algae of the United States. Commenius Press. Bethlehem, Pa.

ADDENDUM: ULOTRICHALES

- Blidingia minima (Nag) Kylin
Barnegat Bay, March (15)
- Entocladia viridis
Barnegat Bay, almost all year (15)
- Percursaria percusa (Ag) J. Ag
Great Bay, June (9); Barnegat Bay, July (15)
- Pilinia moresi Collins
on woodwork (3)
- Ulvella lens
Barnegat Bay, almost all year (15)